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[News, Profiles, Stocks and More about this company](#)Published / Filed: **June 21, 1994 / Dec. 2, 1992**Application Number: **JP1992000345104**IPC Code: **A42B 1/00;**Priority Number: **Dec. 2, 1992 JP1992000345104**

Abstract:

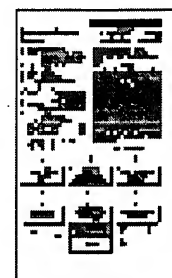
PURPOSE: To positively give coolness to head in addition to the original sun-screening action of a hat.

CONSTITUTION: An opening 14 is formed at the proper position of a hat main body 13 comprising a crown 11 and a brim 12, and a small motor 16 is attached to a place near to the opening 14 in the hat main body 13. A fan 17 for blowing air toward the head through the opening 14 when the hat main body 13 is worn on the head is attached to the rotation shaft of the motor 16. An electric current is supplied to the motor 16 from a solar battery panel 18 attached to the hat main body 13 and also from an auxiliary battery 21 attached to the hat main body 13 so as to enable the driving of the motor when sunlight is weak or when the hat is used indoors.

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Family: **None**Other Abstract Info: **JAPABS 180517C000132 JAP180517C000132**[Nominate](#)[this for the Gallery...](#)

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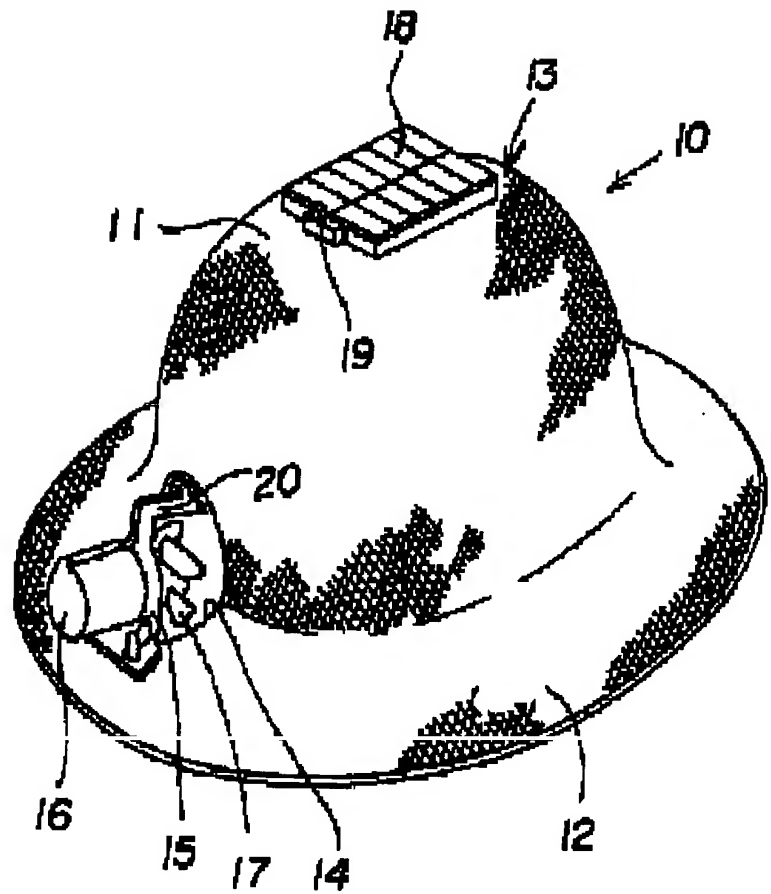
(54) **HAT WITH FAN**

(57) Abstract:

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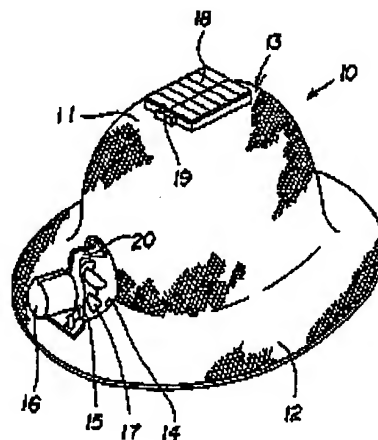
(74)代理人 弁理士 佐藤 孝雄

(54)【発明の名称】 ファン付帽子

(57)【要約】

【目的】 帽子が本来的に持つ日除け作用に加えて積極的に涼しさを与えるようにすることを目的とする。

【構成】 頭冠部11とつば部12とからなる帽子本体13の適所に開口部14を形成し、小型のモータ16を帽子本体13における開口部14付近に位置決めして固定し、このモータ16の回転軸には、帽子本体13を頭に被った時開口部14を介し頭に向って送風するファン17を取り付け、帽子本体13に取り付けた太陽電池パネル18からモータ16へ給電すると共に日差しの弱い時或いは室内でもモータを駆動することができるよう帽子本体13に取り付けられた予備バッテリー21からも給電可能としたことを特徴とする。



10: ファン付帽子

11: 頭冠部

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【特許請求の範囲】

【請求項1】 帽子本体と、該帽子本体の適所に形成された開口部と、前記帽子本体に固定された小型のモータと、前記開口部に位置決めされると共に前記モータの回転軸に取り付けられ、前記帽子本体を頭に被った時当該頭に向って送風するファンと、前記帽子本体に取り付けられ、前記モータと電気的に接続されて給電する太陽電池パネルと、前記帽子本体に取り付けられ、前記モータに給電する予備バッテリーとからなるファン付帽子。

【請求項2】 前記予備バッテリーが前記太陽電池パネルにも電気的に接続され、前記太陽電池パネルからの発電を充電可能なバッテリーであることを特徴とする請求項1に記載のファン付帽子。

【発明の詳細な説明】

【0001】

【産業状の利用分野】 本発明は帽子に関し、更に詳細には太陽光線から頭を保護すると同時に積極的に清涼感即ち涼しさを与えるファン付帽子に関する。

【0002】

【従来の技術】 従来、帽子は種々の機能を持ち、その用途に応じて使用されてきた。例えば、スポーツ用、レジャー用、ファッション用等多方面でその目的に応じて使用されている。しかし、帽子はその本来的な機能として太陽光線即ち日差しを避け、頭を熱射から守り且つ眩しさを緩和するために使用されることが多い。

【0003】 通常、この種の帽子は、頭に被ってこれを直接覆う半球状の頭冠部及びつば部からなるが、このつば部は例えば野球帽のように頭冠部の前方のみにあるものや、日除け帽のように頭冠部の全周囲に設けられているものなどがある。また、眩しさを緩和するだけの目的として使用されるサンバイザーと称するものもあり、これも一種の帽子的な機能で使用されることが多い。

【0004】

【発明が解決しようとする課題】 しかしながら、従来の帽子は、前述したように本来的に日差しを避けるか又は頭を保護するために用いられるものであり、それ以上の機能を備えてはいない。従って、帽子を被ってもそれによる太陽熱遮蔽効果以上に暑さを凌ぐことはできず、また帽子を被ることにより生ずる頭の蒸れを消散させることもできなかった。

【0005】 本発明の目的は、かかる従来の問題点を解決するために創作されたもので、帽子が本来的に持つ日除け作用に加えて積極的に涼しさを与えることのできるファン付帽子を提供することにある。

【0006】

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送風するファンと、前記帽子本体に取り付けられ、前記モータと電気的に接続されて給電する太陽電池パネルと、前記帽子本体に取り付けられ、前記モータに給電する予備バッテリーとから構成されている。

【0007】 更に、本発明のファン付帽子は、前述の構成に加えて前記予備バッテリーが前記太陽電池パネルにも電気的に接続され、前記太陽電池パネルからの発電を充電可能なバッテリーであることを特徴とする。

【0008】

【作用】 本発明のファン付帽子によると、風もなく又日差しもかなり強い真夏等において日除け等のために帽子本体を頭に被るとき、帽子本体に取り付けた小型モータのスイッチを入れてこれを駆動する。これにより、小型モータの駆動軸に取り付けられたファンが回転して風を起こし、帽子本体に形成された開口部を介して頭に風を当て、装着者に清涼感をあたえる。その際、小型モータは帽子本体に取り付けられた太陽電池パネルで発電された電気で駆動されるが、帽子本体に予備バッテリーを取り付けていることから太陽光線を受光できない室内や雨天などにおいても使用することができる。

【0009】 また、予備バッテリーを例えばニッカド電池のような充電可能なものにしておけば、太陽電池パネルからの発電で常に充電しておくことができ、小型モータの駆動に必要な電気を太陽電池パネルから得られないときなどに予備バッテリーの消耗を心配することなく、安心して且つ確実に当該モータを駆動させることができる。

【0010】

【実施例】 以下、本発明のファン付帽子を図に示された実施例について更に詳細に説明する。図1には本発明の一実施例に係るファン付帽子10が示されている。このファン付帽子10は、頭に被る半球状の頭冠部11の全周囲につば部12を一体的に形成された帽子本体13を備える。この帽子本体13には図1から明らかなように、該帽子本体13を被った時に人の額に対向する側のつば部12から頭冠部11に亘る部分に開口部14が形成されている。

【0011】 この開口部14の縁部におけるつば部12上には合成樹脂製の支持体15がその裏側に配置された当て板（図示せず）を介して螺合されたネジにより固定されている。この支持体15には小型のモータ16がネジにより取り付け固定されている。その際、図1から明らかなようにモータ16の本体が支持体15の外側に位置し、これにより回転軸が開口部14のほぼ中心に位置して帽子本体13の内側へ向くように形成されている。

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14から帽子本体13内へ強制的に送られ、人の顔に当り、このファン付帽子10を被っている人に清涼感を与えることになる。

【0013】帽子本体13の頭冠部11最上部には太陽電池パネル18が取り付けられ、この太陽電池パネル18のフレームに一体的に設けられたスイッチ部19を介してモータ16へ配線されている。この配線19は帽子本体13内側を通して開口部14へ至り、モータ支持用の支持体15の上端に一体的に形成され且つ開口部14の頭冠部11に位置する縁部へ接近するように伸長するガイド部20の溝を通してモータ16に接続されている。

【0014】これにより、太陽の光を受けて太陽電池パネル18で発電された電力はスイッチ部19をオンすることによりモータ16へ供給され、これを駆動する。しかし、雨天など太陽の光が弱い時又は室内での使用の場合等太陽電池パネル18での十分な発電が期待できない時のために、帽子本体13の後方側におけるつば部12の内側には予備バッテリー21、例えば単3電池が2本電池ケースに入れて取り付けられている。この予備バッテリー21は前述のスイッチ部19を介してモータ16へ接続されている。

【0015】そして、この配線の実際的な回路構成は図2に示されるように太陽電池パネル18と予備バッテリー21とが並列に接続されていて、このプラス側がスイッチ部19を介してモータ16の一方の端子に、またマイナス側がモータ16の他方の端子に接続されている。その際、太陽電池パネル18のプラス側端子が予備バッテリー21のプラス側とスイッチ部19の端子とを接続する回路部分に接続される配線部には、逆流防止用のダイ

オード22が配置されている。

【0016】これにより、予備バッテリー21の電気が太陽電池パネル18を介して流れ、予備バッテリー21が自然に消耗するのを防止することができる。このような回路の構成は既に公知のものであり、従ってこれ以上の詳細な説明は省略する。

【0017】このように前述の実施例に係る帽子10によれば、当該帽子10を被っている人が必要に応じて帽子本体11上のスイッチ部19を操作してモータ16へ給電すれば、ファン17が回転して顔に風を送ることができ、しかもこのような場合には本来日差しの強い時が多いためモータ16への供給電源を太陽電池パネル18としたことにより常に効果的に電力を供給することができる。

【0018】以下、図3の実施例では、太陽電池パ

ネル18により、モータ16を使用しない時、又は日差しが強く太陽電池パネル18により発生する起電力が大きい時にはモータ16の駆動中でも当該予備バッテリー21を太陽電池パネル18による発電で充電しておくことができ、従っていつでも確実にモータ16の駆動即ちファン17の回転を保障することができる。ただし、この場合には図2に示される回路に設けられている逆流防止用のダイオード22が必要ないことは言うまでもない。

【0020】図1に示された本発明の実施例では帽子本体13における頭冠部11における全周囲につば部12が設けられている所謂日除け帽子であったが、本発明はこの帽子に限定されるものではなく、一般に野球帽と称されているものであってもよい。

【0021】このような本発明の他の実施例であるファン付野球帽30は、図3に示されるように頭冠部31の前方にのみ設けられたつば部32の中央部に開口部33を形成している。この開口部33の前縁部には図1に示された実施例と同様にモータ16が支持体15によって取り付け支持され、その回転軸にはファン17が固定されている。

【0022】その時、このファン17の羽根の一部が開口部33に位置するようにモータ16が支持体15に取り付けられている。そして、頭冠部31におけるつば部32との接続部であってファン17に対向する部分にも別な開口部34が形成されている。この開口部34は主にファン17の回転によって発生した風を顔へ送る窓として作用すると共に太陽電池パネルや予備バッテリーからの配線を支持体15に形成されたガイド部20の溝へ導く通し穴としても作用する。

【0023】このようなファン付野球帽30において、モータ16へ給電する太陽電池パネル18や予備バッテリー21は図1に示されたものと同様に例えば頭冠部31の上部に取り付けられている。尚、予備バッテリーも設けられているが、このファン付野球帽では頭冠部31の後方につば部がないので、頭冠部31の内側近所に設けられている。

【0024】このようなファン付野球帽30は実際に野球選手が使用することを目的としたものではなく、専ら野球観戦者用のもので、日中日差しの強いスタンドで野球を観戦する時などにこのファン付野球帽30を被っていれば日除けと同時にファン17による強制的な送風を受けて涼しさを感じることができ、又日射病などにかか

ることもない等極めて実用的な効果を奏する。

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もよく、またその設置位置も適宜選択することができる。

【0026】更に、前述した各実施例では、太陽電池パネル18が頭冠部の頂上に設置されていたが、これをつば部に設けてもよい。そして、モータ16も支持体15から着脱可能にしておけば、気候が涼しい時にはモータを支持体から取外して帽子自体の重量を少しでも軽くして使用することができる。

【0027】このように本発明のファン付帽子は、前述した実施例に限定されることなく、スポーツ用（例えば登山用帽子、ゴルフ用帽子等）、レジャー用、又はファッション用等多方面の帽子に応用することができ、またサンバイザーなども本発明のファン付帽子に含まれるものである。尚、太陽電池パネル、モータ及びファン等の色を帽子本体の色と同じか同系色とすることによりこれをめだたなくすることもできる。

【0028】

【発明の効果】以上説明したように、本発明のファン付帽子によれば、帽子本体にモータを取り付け、このモータを太陽電池パネルからの給電により駆動させ、その回転軸に装着したファンを回転させることにより、日差しを避けるだけではなく積極的に風をおこして涼しさを与えることができ且つ頭の蒸れなどの発生も防止することができ、またそのための電力供給も心配する必要がない。

*【図面の簡単な説明】

【図1】本発明のファン付帽子にかかる一実施例を示す斜視図である。

【図2】図1に示される実施例のファン付帽子に設けられたモータ、太陽電池パネル、予備バッテリー、及びスイッチ部の回路構成を示す回路図である。

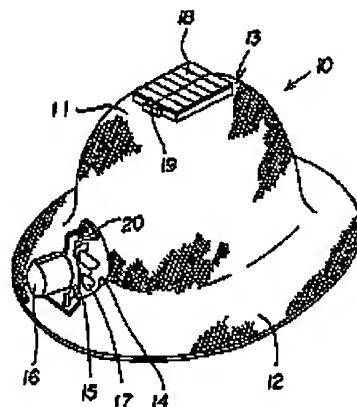
【図3】本発明の他の実施例にかかるファン付野球帽を示す斜視図である。

【符号の説明】

- | | |
|----|------------|
| 10 | ファン付帽子 |
| 11 | 頭冠部 |
| 12 | つば部 |
| 13 | 帽子本体 |
| 14 | 開口部 |
| 15 | 支持体 |
| 16 | モータ |
| 17 | ファン |
| 18 | 太陽電池パネル |
| 19 | スイッチ部 |
| 20 | ガイド部 |
| 21 | 予備バッテリー |
| 22 | 逆流防止用ダイオード |
| 30 | ファン付野球帽 |
| 31 | 頭冠部 |
| 32 | つば部 |

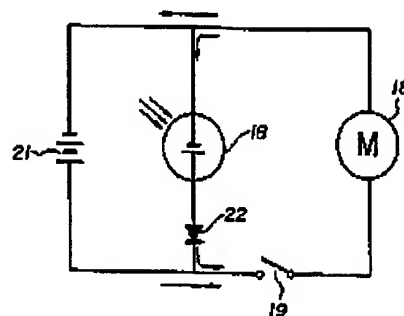
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【図1】



- 10：ファン付帽子
11：頭冠部
12：つば部
13：帽子本体
14：開口部
15：支持体
16：モータ
17：ファン

【図2】

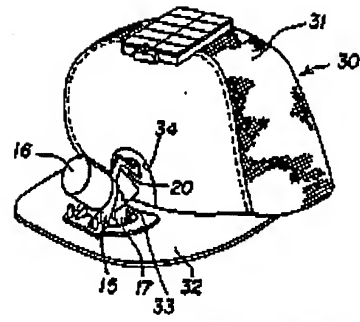


- 21：予備バッテリー
22：ダイオード

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【図3】



30：ファン付野球帽
31：冠部
32：つば部

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CLAIMS

[Claim(s)]

[Claim 1] The hat with a fan characterized by providing the following. The main part of a hat. Opening formed in the proper place of this main part of a hat. The small motor fixed to the aforementioned main part of a hat. The fan who ventilates toward the head concerned when it is attached in the axis of rotation of the aforementioned motor and the aforementioned main part of a hat is covered on the head, while being positioned by the aforementioned opening, the solar panel which is attached in the aforementioned main part of a hat, is electrically connected with the aforementioned motor, and supplies electric power, and the reserve dc-battery which is attached in the aforementioned main part of a hat, and supplies electric power to the aforementioned motor.

[Claim 2] The hat with a fan according to claim 1 which the aforementioned reserve dc-battery is electrically connected also to the aforementioned solar panel, and is characterized by being the dc-battery which can charge the power generation from the aforementioned solar panel.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industry-like field of the invention] About a hat, still in detail, this invention relates to the hat with a fan which gives coolness, i.e., cool, positively at the same time it protects the head from sunrays.

[0002]

[Description of the Prior Art] Conventionally, the hat had various functions and has been used according to the use. For example, the object for sports, the object for leisure, the object for fashions, etc. are various, and are used according to the purpose. However, a hat is used in many cases in order to avoid sunrays, i.e., sunlight, as the original function, and to protect the head from **** and to ease dazzle.

[0003] Usually, although this kind of hat is worn on the head and consists this of wrap semi-sphere-like the crown-of-the-head section and the flange section directly, this flange section has what is only ahead of the crown-of-the-head section like a baseball cap, the thing prepared in the perimeter enclosure of the crown-of-the-head section like a sun hat. Moreover, there are some which are called the sun visor used only as a purpose which eases dazzle, and this is also used in many cases by a kind of function like a hat.

[0004]

[Problem(s) to be Solved by the Invention] However, the conventional hat is not used in order to avoid sunlight essentially or to protect the head, as mentioned above, and it is not equipped with the function beyond it. Therefore, solar heat by it even if it is wearing a hat The purpose of this invention was created in order to solve this conventional trouble, and it is to offer the hat with a fan which can give cool positively in addition to the awning operation which a hat has essentially.

[0006]

[Means for Solving the Problem] Opening by which the hat with a fan of this invention was formed in the proper place of the main part of a hat, and this main part of a hat, With the small motor fixed to the aforementioned main part of a hat, and the fan who ventilates toward the head concerned when it is attached in the axis of rotation of the aforementioned motor and the aforementioned main part of a hat is covered on the head, while being positioned by the aforementioned opening It is attached in the aforementioned main part of a hat with the solar panel which is attached in the aforementioned main part of a hat, is electrically connected with the aforementioned motor, and supplies electric power, and consists of reserve dc-batteries which supply electric power to the aforementioned motor.

[0007] Furthermore, in addition to the above-mentioned composition, the aforementioned reserve dc-battery is electrically connected also to the aforementioned solar panel, and the hat with a fan of this invention is characterized by being the dc-battery which can charge the power generation from the aforementioned solar panel.

[0008]

[Function] When according to the hat with a fan of this invention there is also no wind and sunlight is also covered with the main part of a hat on the head in quite strong midsummer etc. again for an

awning etc., the small motor attached in the main part of a hat is switched on, and this is driven. The fan attached in the driving shaft of a small motor rotates by this, breeze is made, a wind is applied to the head through opening formed in the main part of a hat, and coolness is given to a wearing person. Although driven by electrical and electric equipment generated by the solar panel by which the small motor was attached in the main part of a hat at that time, since the reserve dc-battery is attached in the main part of a hat, it can be used also in the interior of a room, rainy weather, etc. which cannot receive sunrays.

[0009] Moreover, the motor concerned can be made to drive certainly in comfort, without worrying about exhaustion of a reserve dc-battery, when it can always charge by the power generation from a solar panel and the electrical and electric equipment required for the drive of a small motor cannot be acquired from a solar panel, if the reserve dc-battery is made into the thing in which charge like a nickel cadmium cell is possible.

[0010]

[Example] Hereafter, the hat with a fan of this invention is explained still in detail about the example shown in drawing. The hat 10 with a fan concerning one example of this invention is shown in drawing 1. This hat 10 with a fan is equipped with the main part 13 of a hat formed in the perimeter enclosure of the semi-sphere-like crown-of-the-head section 11 with which it is covered on the head in one in the flange section 12. Opening 14 is formed in the portion ranging from the flange section 12 to the crown-of-the-head section 11 of the side which counters people's frame when this main part 13 of a hat is covered so that clearly [this main part 13 of a hat] from drawing 1.

[0011] On the flange section 12 in the marginal part of this opening 14, it is fixed with the screw with which the base material 15 made of synthetic resin was screwed through the corrosion plate (not shown) arranged at the background. The small motor 16 attaches in this base material 15 with a screw, and is being fixed to it. The main part of a motor 16 is located in the outside of a base material 15 so that clearly from drawing 1, and the axis of rotation is located focusing on the simultaneously of opening 14, and it is made to turn to the inside of the main part 13 of a hat by this in that case.

[0012] The fan 17 is attached in the axis of rotation of this motor 16, and this fan 17 has the wing adjusted so that a wind might go to the inner direction of the main part 13 of a hat through opening 14, when a motor 16 drove and rotates. The wind which this generates by rotation of a fan 17 will be compulsorily sent into the main part 13 of a hat from opening 14, and will give coolness to those who are wearing this hat 10 with a fan in people's frame.

[0013] A solar panel 18 is attached in the crown-of-the-head section 11 topmost part of the main part 13 of a hat, and it wires to the motor 16 through the switch section 19 prepared in the frame of this solar panel 18 in one. This wiring 19 is connected to the motor 16 through the slot of the guide section 20 elongated so that the marginal part which results to opening 14 through the main part of hat 13 inside, and is formed in the upper limit of the base material 15 for motor support in one, and is located in the crown-of-the-head section 11 of opening 14 may be approached.

[0014] Thereby, by turning on the switch section 19, the power generated by the solar panel 18 in response to a solar light is supplied to a motor 16, and drives this. However, when the light of the suns, such as rainy weather, is weak, the sake [when sufficient power generation by the solar panels 18, such as a case of use in the interior of a room, is not expectable], inside the flange section 12 by the side of the back of the main part 13 of a hat, the reserve dc-battery 21, for example, single 3 cells, puts into 2 cell cases, and they are attached. This reserve dc-battery 21 is connected to the motor 16 through the above-mentioned switch section 19.

[0015] And as the practical circuitry of this wiring is shown in drawing 2, the solar panel 18 and the reserve dc-battery 21 are connected in parallel, and the minus side is connected to one terminal of a motor 16 for this plus side through the switch section 19 again at the other-end child of a motor 16. The diode 22 for antisuckbacks is arranged at the wiring section connected to the circuit portion to which the plus side edge child of a solar panel 18 connects the terminal of the switch section 19 the plus side of reserve BATERI 21 in that case.

[0016] Thereby, the electrical and electric equipment of the reserve dc-battery 21 can flow through a solar panel 18, and the reserve dc-battery 21 can prevent exhausting automatically. The composition of such a circuit is already well-known, therefore the detailed explanation beyond this is omitted.

[0017] Thus, if those who are wearing the hat 10 concerned according to the hat 10 concerning the above-mentioned example operate the switch section 19 on the main part 11 of a hat if needed and supply electric power to a motor 16. Since a fan 17 can rotate, a wind can be sent to a frame and sunlight is originally strong in many cases in such [moreover] a case, power can always be effectively supplied by having made the supply power supply to a motor 16 into the solar panel 18.

[0018] By the way, although the reserve dc-battery 20 is formed in the above-mentioned example the sake [when sufficient power generation by the solar panels 18, such as a case of use in the interior of a room, is not expectable] when a solar light is weak or, it can consider as the cell which can charge this reserve dc-battery 21 like a nickel cadmium cell.

[0019] By this, when not using a motor 16, or when the electromotive force which sunlight generates by the solar panel 18 strongly is large, the reserve dc-battery 21 concerned can be charged by power generation by the solar panel 18 also in the drive of a motor 16, therefore the drive of a motor 16, i.e., rotation of a fan 17, can certainly [always] be secured. However, it cannot be overemphasized that the diode 22 for antisuckbacks formed in the circuit shown in drawing 2 in this case is unnecessary.

[0020] In the example of this invention shown in drawing 1, although it was the so-called sun-hat child by whom the flange section 12 is formed in the perimeter enclosure in the crown-of-the-head section 11 in the main part 13 of a hat, this invention may not be limited to this hat and, generally may be called the baseball cap.

[0021] Such a baseball cap 30 with a fan that are other examples of this invention forms opening 33 in the center section of the flange section 32 prepared only ahead of the crown-of-the-head section 31 as shown in drawing 3. Like the example shown in drawing 1, a motor 16 attaches in the first transition section of this opening 33, and is supported by the base material 15, and the fan 17 is being fixed to the axis of rotation.

[0022] Then, the motor 16 is attached in the base material 15 so that some this fan's 17 wings may be located in opening 33. And another opening 34 is formed also in the portion which is an articulated section with the flange section 32 in the crown-of-the-head section 31, and counters a fan 17. This opening 34 acts also as a run through hole which leads the wiring from a solar panel or a reserve dc-battery to the slot of the guide section 20 formed in the base material 15 while acting as an aperture which sends the wind mainly generated by rotation of a fan 17 to a frame.

[0023] In such a baseball cap 30 with a fan, the solar panel 18 which supplies electric power to a motor 16, and the reserve dc-battery 21 are attached in the upper part of the crown-of-the-head section 31 like what was shown in drawing 1. In addition, with this baseball cap with a fan, although the reserve dc-battery is also formed, since there is no flange section behind the crown-of-the-head section 31, it is prepared for the inside proper place of the crown-of-the-head section 31.

[0024] Such the baseball cap 30 with a fan is for baseball games watching-persons, if this baseball cap 30 with a fan is worn when observing baseball in the strong stand of sunlight in the daytime, it can sense cool simultaneous with an awning in response to the compulsory ventilation by the fan 17, and it is not a thing aiming at a baseball player actually using it, and it does so very practical effects, such as not suffering from thermoplegia etc., chiefly.

[0025] Moreover, although the electric supply to a motor 16 was made only in the switch section 19 for turning on and off in the hat with a fan concerning each example mentioned above, it is also desirable to make it what can switch the speed of rotation of this switch section of turning on and off and a motor, i.e., the strength of ventilation. Furthermore, in each example mentioned above, although the number of motors was one, of course, there may be more than one, and the installation position can also be chosen suitably.

[0026] Furthermore, in each example mentioned above, although the solar panel 18 was installed on the top of the crown-of-the-head section, you may prepare this in the flange section. And if the motor

16 is also made removable from the base material 15, when climate is cool, a motor is demounted from a base material, and the weight of the hat itself can be used, making it as light as possible.

[0027] Thus, without limiting the hat with a fan of this invention to the example mentioned above, it can apply to various hats, such as objects for sports (for example, the hat for mountain climbing, the hat for golf, etc.), an object for leisure, or an object for fashions, and a sun visor etc. is contained in the hat with a fan of this invention. In addition, by whether it is the same as the color of the main part of a hat, and making the color of a solar panel, a motor, a fan, etc. into an affiliated color, it cannot be conspicuous and these can also be carried out.

[0028]

[Effect of the Invention] not only avoiding sunlight by according to the hat with a fan of this invention, attaching a motor in the main part of a hat, making this motor drive by electric supply from a solar panel, and rotating the fan who equipped the axis of rotation, as explained above -- positive -- a wind -- starting -- cool -- it can give -- and the head -- being steamed -- etc. -- generating can also be prevented and the electric power supply for it does not need to be worried, either

[Translation done.]

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TECHNICAL FIELD

[Industry-like field of the invention] About a hat, still in detail, this invention relates to the hat with a fan which gives coolness, i.e., cool, positively at the same time it protects the head from sunrays.

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PRIOR ART

[Description of the Prior Art] Conventionally, the hat had various functions and has been used according to the use. For example, the object for sports, the object for leisure, the object for fashions, etc. are various, and are used according to the purpose. However, a hat is used in many cases in order to avoid sunrays, i.e., sunlight, as the original function, and to protect the head from **** and to ease dazzle.

[0003] Usually, although this kind of hat is worn on the head and consists this of wrap semi-sphere-like a head crown and the flange section directly, this flange section has what is only ahead of a head crown like a baseball cap, the thing prepared in the perimeter enclosure of a head crown like an awning cap. Moreover, there are some which are called the sun visor used only as a purpose which eases dazzle, and this is also used in many cases by a kind of function like a hat.

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EFFECT OF THE INVENTION

[Effect of the Invention] not only avoiding sunlight by according to the hat with a fan of this invention, attaching a motor in the main part of a hat, making this motor drive by electric supply from a solar panel, and rotating the fan who equipped the axis of rotation, as explained above -- positive -- a wind -- starting -- cool -- it can give -- and the head -- being steamed -- etc. -- generating can also be prevented and the electric power supply for it does not need to be worried, either

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, the conventional hat is not used in order to avoid sunlight essentially or to protect the head, as mentioned above, and it is not equipped with the function beyond it. Therefore, solar heat by it even if it is wearing a hat [0005] The purpose of this invention was created in order to solve this conventional trouble, and it is to offer the hat with a fan which can give cool positively in addition to the awning operation which a hat has essentially.

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MEANS

[Means for Solving the Problem] The hat with a fan of this invention is constituted by the following. The main part of a hat. Opening formed in the proper place of this main part of a hat. The small motor fixed to the aforementioned main part of a hat. The fan who ventilates toward the head concerned when it is attached in the axis of rotation of the aforementioned motor and the aforementioned main part of a hat is covered on the head, while being positioned by the aforementioned opening, the solar panel which is attached in the aforementioned main part of a hat, is electrically connected with the aforementioned motor, and supplies electric power, and the reserve dc-battery which is attached in the aforementioned main part of a hat, and supplies electric power to the aforementioned motor.

[0007] Furthermore, in addition to the above-mentioned composition, the aforementioned reserve dc-battery is electrically connected also to the aforementioned solar panel, and the hat with a fan of this invention is characterized by being the dc-battery which can charge the power generation from the aforementioned solar panel.

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OPERATION

[Function] When according to the hat with a fan of this invention there is also no wind and sunlight is also covered with the main part of a hat on the head in quite strong midsummer etc. again for an awning etc., the small motor attached in the main part of a hat is switched on, and this is driven. The fan attached in the driving shaft of a small motor rotates by this, breeze is made, a wind is applied to the head through opening formed in the main part of a hat, and coolness is given to a wearing person. Although driven by electrical and electric equipment generated by the solar panel by which the small motor was attached in the main part of a hat at that time, since the reserve dc-battery is attached in the main part of a hat, it can be used also in the interior of a room, rainy weather, etc. which cannot receive sunrays.

[0009] Moreover, the motor concerned can be made to drive certainly in comfort, without worrying about consumption of a reserve dc-battery, when it can always charge by the power generation from a solar panel and the electrical and electric equipment required for the drive of a small motor cannot be acquired from a solar panel, if the reserve dc-battery is made into the thing in which charge like a nickel cadmium cell is possible.

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EXAMPLE

[Example] Hereafter, the hat with a fan of this invention is explained still in detail about the example shown in drawing. The hat 10 with a fan concerning one example of this invention is shown in drawing 1. This hat 10 with a fan is equipped with the main part 13 of a hat formed in the perimeter enclosure of the semi-sphere-like crown-of-the-head section 11 with which it is covered on the head in one in the flange section 12. Opening 14 is formed in the portion ranging from the flange section 12 to the crown-of-the-head section 11 of the side which counters people's frame when this main part 13 of a hat is covered so that clearly [this main part 13 of a hat] from drawing 1.

[0011] On the flange section 12 in the marginal part of this opening 14, it is fixed with the screw with which the base material 15 made of synthetic resin was screwed through the corrosion plate (not shown) arranged at the background. The small motor 16 attaches in this base material 15 with a screw, and is being fixed to it. The main part of a motor 16 is located in the outside of a base material 15 so that clearly from drawing 1, and the axis of rotation is located focusing on the simultaneously of opening 14, and it is made to turn to the inside of the main part 13 of a hat by this in that case.

[0012] The fan 17 is attached in the axis of rotation of this motor 16, and this fan 17 has the wing adjusted so that a wind might go to the inner direction of the main part 13 of a hat through opening 14, when a motor 16 drove and rotates. The wind which this generates by rotation of a fan 17 will be compulsorily sent into the main part 13 of a hat from opening 14, and will give coolness to those who are wearing this hat 10 with a fan in people's frame.

[0013] A solar panel 18 is attached in the crown-of-the-head section 11 topmost part of the main part 13 of a hat, and it wires to the motor 16 through the switch section 19 prepared in the frame of this solar panel 18 in one. This wiring 19 is connected to the motor 16 through the slot of the guide section 20 elongated so that the marginal part which results to opening 14 through the main part of hat 13 inside, and is formed in the upper limit of the base material 15 for motor support in one, and is located in the crown-of-the-head section 11 of opening 14 may be approached.

[0014] Thereby, by turning on the switch section 19, the power generated by the solar panel 18 in response to a solar light is supplied to a motor 16, and drives this. However, when the light of the suns, such as rainy weather, is weak, the sake [when sufficient power generation by the solar panels 18, such as a case of use in the interior of a room, is not expectable], inside the flange section 12 by the side of the back of the main part 13 of a hat, the reserve dc-battery 21, for example, single 3 cells, puts into 2 cell cases, and they are attached. This reserve dc-battery 21 is connected to the motor 16 through the above-mentioned switch section 19.

[0015] And as the practical circuitry of this wiring is shown in drawing 2, the solar panel 18 and the reserve dc-battery 21 are connected in parallel, and the minus side is connected to one terminal of a motor 16 for this plus side through the switch section 19 again at the other-end child of a motor 16. The diode 22 for antisuckbacks is arranged at the wiring section connected to the circuit portion to which the plus side edge child of a solar panel 18 connects the terminal of the switch section 19 the plus side of reserve BATERI 21 in that case.

[0016] Thereby, the electrical and electric equipment of the reserve dc-battery 21 can flow through a

solar panel 18, and the reserve dc-battery 21 can prevent exhausting automatically. The composition of such a circuit is already well-known, therefore the detailed explanation beyond this is omitted.

[0017] Thus, if those who are wearing the hat 10 concerned according to the hat 10 concerning the above-mentioned example operate the switch section 19 on the main part 11 of a hat if needed and supply electric power to a motor 16. Since a fan 17 can rotate, a wind can be sent to a frame and sunlight is originally strong in many cases in such [moreover] a case, power can always be effectively supplied by having made the supply power supply to a motor 16 into the solar panel 18.

[0018] By the way, although the reserve dc-battery 20 is formed in the above-mentioned example the sake [when sufficient power generation by the solar panels 18, such as a case of use in the interior of a room, is not expectable] when a solar light is weak or, it can consider as the cell which can charge this reserve dc-battery 21 like a nickel cadmium cell.

[0019] By this, when not using a motor 16, or when the electromotive force which sunlight generates by the solar panel 18 strongly is large, the reserve dc-battery 21 concerned can be charged by power generation by the solar panel 18 also in the drive of a motor 16, therefore the drive of a motor 16, i.e., rotation of a fan 17, can certainly [always] be secured. However, it cannot be overemphasized that the diode 22 for antisuckbacks formed in the circuit shown in drawing 2 in this case is unnecessary.

[0020] In the example of this invention shown in drawing 1, although it was the so-called sun-hat child by whom the flange section 12 is formed in the perimeter enclosure in the crown-of-the-head section 11 in the main part 13 of a hat, this invention may not be limited to this hat and, generally may be called the baseball cap.

[0021] Such a baseball cap 30 with a fan that are other examples of this invention forms opening 33 in the center section of the flange section 32 prepared only ahead of the crown-of-the-head section 31 as shown in drawing 3. Like the example shown in drawing 1, a motor 16 attaches in the first transition section of this opening 33, and is supported by the base material 15, and the fan 17 is being fixed to the axis of rotation.

[0022] Then, the motor 16 is attached in the base material 15 so that some this fan's 17 wings may be located in opening 33. And another opening 34 is formed also in the portion which is an articulated section with the flange section 32 in the crown-of-the-head section 31, and counters a fan 17. This opening 34 acts also as a run through hole which leads the wiring from a solar panel or a reserve dc-battery to the slot of the guide section 20 formed in the base material 15 while acting as an aperture which sends the wind mainly generated by rotation of a fan 17 to a frame.

[0023] In such a baseball cap 30 with a fan, the solar panel 18 which supplies electric power to a motor 16, and the reserve dc-battery 21 are attached in the upper part of the crown-of-the-head section 31 like what was shown in drawing 1. In addition, with this baseball cap with a fan, although the reserve dc-battery is also formed, since there is no flange section behind the crown-of-the-head section 31, it is prepared for the inside proper place of the crown-of-the-head section 31.

[0024] Such the baseball cap 30 with a fan is for baseball games watching-persons, if this baseball cap 30 with a fan is worn when observing baseball in the strong stand of sunlight in the daytime, it can sense cool simultaneous with an awning in response to the compulsory ventilation by the fan 17, and it is not a thing aiming at a baseball player actually using it, and it does so very practical effects, such as not suffering from thermoplegia etc., chiefly.

[0025] Moreover, although the electric supply to a motor 16 was made only in the switch section 19 for turning on and off in the hat with a fan concerning each example mentioned above, it is also desirable to make it what can switch the speed of rotation of this switch section of turning on and off and a motor, i.e., the strength of ventilation. Furthermore, in each example mentioned above, although the number of motors was one, of course, there may be more than one, and the installation position can also be chosen suitably.

[0026] Furthermore, in each example mentioned above, although the solar panel 18 was installed on the top of the crown-of-the-head section, you may prepare this in the flange section. And if the motor 16 is also made removable from the base material 15, when climate is cool, a motor is demounted

from a base material, and the weight of the hat itself can be used, making it as light as possible. [0027] Thus, without limiting the hat with a fan of this invention to the example mentioned above, it can apply to various hats, such as objects for sports (for example, the hat for mountain climbing, the hat for golf, etc.), an object for leisure, or an object for fashions, and a sun visor etc. is contained in the hat with a fan of this invention. In addition, by whether it is the same as the color of the main part of a hat, and making the color of a solar panel, a motor, a fan, etc. into an affiliated color, it cannot be conspicuous and these can also be carried out.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the perspective diagram showing one example concerning the hat with a fan of this invention.

[Drawing 2] They are the motor formed in the hat with a fan of the example shown in drawing 1 , a solar panel, a reserve dc-battery, and the circuit diagram showing the circuitry of the switch section.

[Drawing 3] It is the perspective diagram showing the baseball cap with a fan concerning other examples of this invention.

[Description of Notations]

10 Hat with Fan

11 Crown-of-the-Head Section

12 Flange Section

13 Main Part of Hat

14 Opening

15 Base Material

16 Motor

17 Fan

18 Solar Panel

19 Switch Section

20 Guide Section

21 Reserve Dc-battery

22 Diode for Antisuckbacks

30 Baseball Cap with Fan

31 Crown-of-the-Head Section

32 Flange Section

[Translation done.]

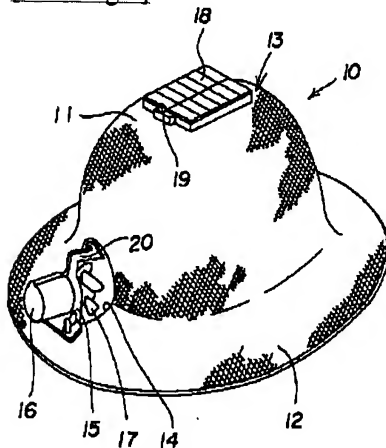
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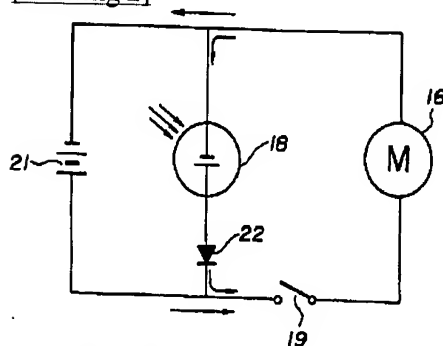
DRAWINGS

[Drawing 1]



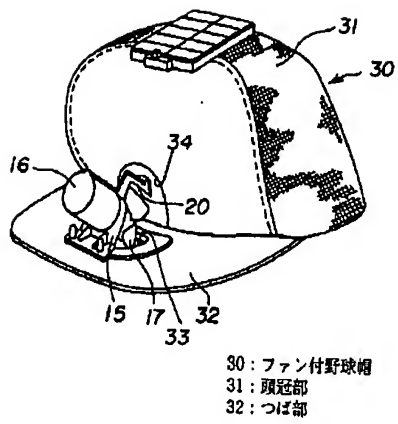
- 10 : ファン付帽子
- 11 : 頭冠部
- 12 : つば部
- 13 : 帽子本体
- 14 : 開口部
- 15 : 支持体
- 16 : モータ
- 17 : ファン
- 18 : 太陽電池パネル
- 19 : スイッチ部
- 20 : ガイド部

[Drawing 2]



- 21 : 予備バッテリー
- 22 : ダイオード

[Drawing 3]



[Translation done.]